

BHP-13-2020 “Optimization of lime slurry preparation plant”

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Aim and scope

Solutions are sought that allow the critical variables of the lime slurry preparation process to be controlled in line and in real time, with the aim of reducing the consumption of raw materials and also ensuring the quality of the final product for subsequent transport to the grinding and flotation processes.

The main variables to control are: percentage of solids and lime slaking temperature.

Operation and processes involved

Minera Escondida, Concentradora Los Colorados.

Current situation

Lime slurry is prepared by a process of slaking quicklime (CaO) with water in a vertical ball mill. This lime slurry (Ca(OH)₂) is then sent to a storage tank for further transport to the concentrator plant. The most frequent problems of this plant are: incrustation of the slurry in the transport circuit to its destination and low efficiency in the preparation, increasing the consumption of raw material.

Current situation

Consequences

Increased consumption of raw material (lime) and incrustations in the transport lines that generate problems of operational continuity.

Problem occurrence

The problem is common in the process of preparing lime slurry.

Current solution

Modifications are made to the operational logic of control valves and line de-scaling actions.

Proven technologies

New technologies have not been tested, but process engineering consultancies are not desired.

Supply innovation BHP

Supply Innovation aims to promote the development of projects between the Company and the Suppliers with an associative approach, where the design and construction of the solution for the "Challenge" detected by an area of the Operation is addressed jointly. In this way, the generated projects develop solutions that add value to the Company and the suppliers build capacities and competencies that translate in more and better business opportunities.

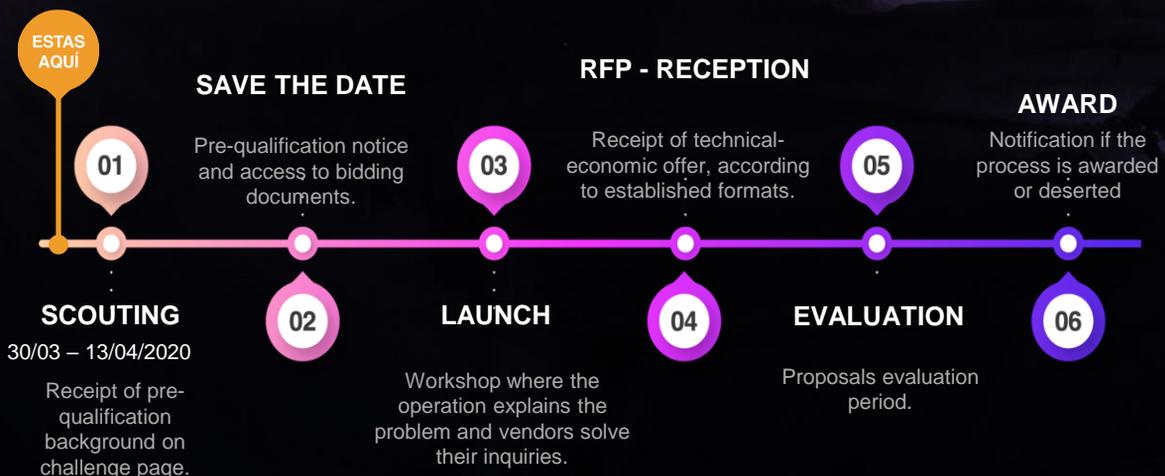
Expande Program

The Open Innovation in Mining Program, Expande, is a public-private initiative designed and carried out by Fundación Chile. The purpose is to drive innovation and make possible a better future for global mining, promoting the mining ecosystem in Chile along with building a collaborative model that enables the best solutions for the high complexity challenges of mining today and tomorrow.

Confidentiality

The delivery of personal information to register in the database, such as details related to technological solutions to apply for Expande's open innovation processes is strictly confidential; as is the information contained in the contact forms with information of these processes' subsequent stages.

Milestones



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<https://fch.brightidea.com/BHP132020Optimizacionplantalechadadecal>

Required documentation

1. Indicate relevant skills of the team members who will solve the challenge.
2. Previous experience in similar solutions or in the technological field of the challenge.
3. Description of the technological solution and degree of maturity (under development, tested, implemented or in operation).
4. Success stories.
5. Ability to provide operational and maintenance services in the field.
6. International companies/suppliers must mention availability to operate in Chile or through technical/commercial representatives